

ZHAO, Z. and B. L. TURNER. 1993. Documented chromosome counts 1993:3; miscellaneous U.S.A. and Mexican species, mostly Asteraceae. *Sida* 15:649–653.

(Received 3 Mar 1995; accepted 24 Jul 1995)

REVIEW

California Plant Community Information System. By STEVEN HARTMAN. 1994. NatureBase, 3646 Fairfax, Culver City, California. Diskette Version 1.0, \$95.00.

The study of California's vegetation is beginning to enter the computer age. NatureBase of Culver City has made four treatments of the state's vegetation available for DOS users: "Preliminary descriptions of the terrestrial natural communities of California" by Robert Holland, "The map of the natural vegetation of California" by A. W. Küchler, "California plant communities" of P. Munz and D. Keck [El Aliso 2:87–105, 199–202] which also is in Munz's *A California Flora*, and summary of acreages of 32 types done by the California Department of Forestry and Fire Protection.

The Munz and Keck classification, a two-level one of nine vegetation types and 29 plant communities, is known by any botanist who has used *A California Flora*. Küchler's map was included in the *Terrestrial Vegetation of California*. The legend lists nine formations with 54 vegetation types. In 1986, Robert Holland, then vegetation ecologist for the Natural Heritage Program of the California Department of Fish and Game, prepared a vegetation classification for use in the California Natural Diversity Data Base. This classification was never published, though it has been extensively used. [A copy is available from Natural Diversity Data Base, California Department of Fish and Game, 1416 Ninth Street, Sacramento, CA 95814]. This classification is a four-tier one with more than 300 types at the lowest level.

The four classifications are entered separately in the computer program. The Department of Forestry scheme lists types such as Mixed conifer, Red fir, and Redwood. According to the list, Other desert covers the most area of any category in California (20%), followed by Urban-agriculture-water (16%). No descriptions beyond category names are available. For the other classifications, the user is taken through each classification, using a series of screens, to a description of a type at the lowest level. Another screen lists the characteristic species for that type. If the scientific names used in the original vegetation description differ from those used in *The Jepson Manual*, both are given.

The screens act in some ways like a set of keys, but only after the reader knows the classification. In learning a classification, sometimes a book version may be more useful, especially in the more elaborate Holland scheme where reading the descriptions is necessary to pick the appropriate category. In the computer version, the user toggles between screens. It takes seven steps to compare Interior live oak forest with Shrub interior live oak chaparral, for example.

The value of the computer form of this information is best met for those interested in working with the more complicated Holland scheme, and having synonym names for scientific names easily available for people getting use to *The Jepson Manual*. For botanists who want this material available on their computers, here is an easy way to have it.

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